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WITNESS my hand this  
Tenth day of November 2003

JANENE PEISKER  
TEAM LEADER EXAMINATION  
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### SOCK PEG

This invention relates to a garment clamp for clamping pairs of garments, such as socks, tights or stockings together for storage or washing, drying or other processing.

A perennial and universal problem is the separation of members of pairs of garments  
5 during washing, drying and the like. Attempts to address this problem by providing a suitable clamping device have been described.

In US 5,671,876 (Gardiner) a sock organiser in the form of a tong-like moulded plastic clamp is described. The device described has a pair of gripping members connected by an integral hinge. The device is adapted for keeping together a plurality of pairs of  
10 garments and the difficulty in utilising this device lies in the struggle to align multiple pairs of garments in place prior to clamping the device together.

US 5,944,236 (Cinque) describes a two-part device having hingeably connected jaws which may be locked in the clamping position by the application of a separate securing member. The described clamp cannot be made in one piece and operators would be likely to  
15 experience difficulty in manipulating the part components to successfully secure a pair of garments.

In US 5,357,660 (Smith) there is described a two-part tab bearing a numerical or other indicia to be attached to each member of a pair of garments to enable the socks to be matched according to the indicia. It can be seen that this system still permits the separation of  
20 members of pairs of garments and still requires sorting and recombining of the members of pairs subsequent to processing such as washing.

In US 5,3234,139 (Korenstein) there is described a clamp for clamping together pairs of paired garments such as socks and other textile articles. The hook, described as optional,

AUSTRALIA

Patents Act 1990

ORIGINAL

PROVISIONAL SPECIFICATION

Title: SOCK PEG

Applicant: STANISLAW JOHN WIERZBICKI

The invention is described in the following statement:

is not fully adapted to securely engage a thin diameter clothes line and conceivably may be dislodged in moderate to strong winds. Moreover force is required to urge the opposed arms of the clamp 12, 14 for a positive engagement with the locking means 34, 36. Accordingly, failure of the locking means 34, 36 will result in the failure of the clamp to clamp the  
5 garment articles.

It is an object of the present invention to overcome one or more of the abovementioned disadvantages of the prior art or to at least provide a useful alternative thereto.

Accordingly, the present invention provides a clamp for keeping members of a pair of  
10 garments together during processing including washing, the clamp including:

an opposed pair of first and second elongate substantially rigid members, the first elongate member having a first handle portion and a first clamping portion and the second elongate member having a second handle portion and a second clamping portion;

a flexible joint intermediate the lengths the first and second elongate members  
15 whereby the first and second handle portions are on a first side of the joint and the first and second clamping portions are on a second side of the joint,

whereby the first and second clamping portions are urged into abutment and the first and second handles are held in spaced relationship by the joint in the passive state, and

upon compression of the first and second handle portions, the first and second  
20 clamping portions are forced apart such that the first and second clamping portions are adapted to receive a pair of garments and to clamp together the garments when the first and second handle portions are released.

The clamp may be made from a variety of materials suitable for the purpose. For example, the clamp may be made from moulded plastic material. Depending on the type of process to which the garments are to be subjected, the clamp material should be suitable for the particular application. For example, where the clamp is to be used to clamp pairs of  
5 garments during washing cycles involving hot water and detergents, the material will of necessity be heat resistant and chemically resistant sufficiently resistant to detergents to avoid chemical degradation during the washing cycle. It is preferred that the clamp material be made from polypropylene or similar plastics materials.

The clamp is preferably comprised of a unitary structure integrally formed by, for  
10 example, moulding. Preferably, the moulding process is carried out using an injection moulding process. As the clamp is preferably integrally formed whereby each of its components comprise the same material, the properties of flexibility and rigidity are generally achieved by the shape or configuration of the various components as determined by the die during the moulding process. For example, the elongate members may be reinforced  
15 against flexible bending by ribs and other reinforcing structures. The elongate members may be bow shaped. The elongate members may include reinforcing ribs on their respective concave sides whereby to resist further bowing. Alternatively, the joint portion may be selectively heat treated or physically weakened by, for example, applying a notch to the joint surface, to weaken the joint and permit greater flexibility subsequent to the moulding  
20 process.

Preferably, the clamp does not include metal components and all components of the clamp are made from non-penetrating materials, both in terms of material hardness,

consistency and shape, whereby to avoid garment damage associated with penetration and tearing.

The first and second clamping portions may include on their respective inner opposed surfaces, gripping features, such as staggered or mutually co-operating ribbed, ripple or undulating surface features. Alternatively, the clamping portion may include opposed internal tooth features. The features may be directly opposed rather than arranged in mating relationship. The opposed internal surface features may be similar to traditional clothes peg gripping surfaces or may be sawtoothed to provide a strong friction grip. In all cases, however, the internal opposed surface features of the clamping portions should be sufficiently non-penetrative to avoid tearing or damage to the garments during the washing cycle or other treatment process.

The joint is preferably sprung whereby a low loading is all that is required to compress the first and second handles towards one another whereby to achieve a spacing of the clamping portions relative to one another. Where the spring loading of the flexible joint is below, it may be necessary to include a locking device which prevents the first and second handle portions from being compressed towards one another and preferably urges the handle portions apart whereby to achieve a strong clamping action for the first and second clamping portions.

The locking device may be in the form of a bridge flexibly attached to one of the first and second handles and releasably engageable to the other of the first and second handle portions. Alternatively, the locking device may be in the form of a wedge or other bracing element integrally formed with one or other of the first and second handles and adapted to be

inserted therebetween in a frictional or positively engaging bracing relationship whereby to prevent the first and second handle portions from being displaced towards one another.

The bridge may include a cam surface adapted to ride over a protrusion on the other of the first and second handle portions and to further include a recess adapted to positively engage the protrusion. Of course, the person skilled in the art will appreciate that the protrusion may be on the bridge and the cam surface and recess may be on the other of the first and second handle portions.

To enable the clamp of the invention to be utilised as a clothes peg, the clamp may further include a clothes line attachment means integrally formed on the external surface of one of the first and second elongate members. Preferably the hook is sufficiently sprung to permit resilient deformation whereby to admit the clothes line into a recess defined by the hook. Preferably, the hook recess is sufficiently spatially tight to resist relative movement of the clamp relative to the clothes line to resist displacement in moderate or high wind conditions.

15 The clamp may include indicia on one or more of its components to indicate ownership (such as in the case of a particular hotel) or the nature of the garments to which the clamp is to be attached. The indicia may be alpha and/or numeric or include some other symbol types or systems such as braille.

The invention will now be described with reference to the following non-limiting examples in which:

Figure 1 is a perspective view of a sock peg according to one embodiment of the first invention;

Figure 2 is a reverse perspective view of the embodiment shown in Figure 1;

Figure 3 is a side view of the sock peg shown in Figure 1;

Figure 4 is a side view of the sock peg of Figure 1 showing hidden rib elements;

Figure 5 is a cross sectional view of the sock peg of the first embodiment taken along line C-C of Figure 3;

5 Figure 6 is an end view of the sock peg according to the first embodiment;

Figure 7 is a view of the first embodiment taken from an end view opposed to that of Figure 6;

Figure 8 is a bottom plan view of the sock peg according to the first embodiment;

Figure 9 is a top plan view of the sock peg of the first embodiment;

10 Figure 10 is a side view of a bridge included in the first embodiment;

Figure 11 is a part view of the bridge shown in Figure 10;

Figure 12 is a side view of a hinge connecting the bridge of Figure 10 to an extension of the first embodiment; and

Figure 13 is a side view of a detent included in the first embodiment.

15 Referring to the drawings, and particularly with reference to Figures 1 and 2, there is shown a sock peg 1 having a clamping portion 10, a handle portion 20, a flexible joint 30, a hook 40 and a hingedly connected bridge portion 50.

The clamping portion 10 and handle portion 20 comprise a pair of opposed first and second elongate members 60, 70. Each of the first and second elongate members 60, 70 is 20 marginally bow shaped, whereby the sections of the elongate members 60, 70 corresponding to the clamping portion 10 are predominantly parallel, whereas the sections corresponding to the handle portion 20 diverge from the flexible joint 30 to their respective first and second terminal ends 61, 71. In the section of the elongate members corresponding to the clamping



portion 10, the internal facing surfaces thereof 62, 72 include facing or complementary arranged teeth. Preferably the opposing teeth 73 are not staggered, but face each other. The teeth 73 are configured to frictionally grip a pair of garments (not shown) such as a pair of socks. On the external surfaces of the elongate members 60, 70 are a series of longitudinal and transverse ribs to provide reinforcement and added rigidity to the elongate members 60, 70. The longitudinal ribs 74 extend from a point intermediate the length of the clamping portion 10 section of the elongate members 60, 70 down to their terminating ends 65, 75. Along the remainder of the lengths of the elongate members 60, 70 are spaced transverse ribs 76.

- 10 The arched configuration of the flexible joint 30 ensures that the elongate members 60, 70 are urged into a clamping position when the sock peg 1 is in the passive state.

Close to the first terminal end 61 is an extension 41 from which extends the bridge 50. The bridge 50 is connected to the extension 41 by means of a narrow hinge 42. Immediately adjacent the hinge 42 is an expanded portion 51 at one end of the bridge 50. When the 15 bridge 50 is flipped over 180° and lockably engaged to the second terminal end 71, the expanded portion 51 rests on top of the extension 41. The first terminal end 61 includes a recess 43 which is adapted to receive a narrow portion 52 extending from the expanded portion 51.

The bridge 50 further includes a brace portion 53 adapted to extend between the gap 20 separating the first and second terminal ends 61, 71. A first end 54 includes an abutting surface is adapted to abut against the internal surface 44 near the first terminal end 61. The bracing portion 53 extends to a catch 55. The catch includes a cam or ramp surface 56 adapted to ride over a detent 77 located near the second terminal end 71 and to be pressed

into engagement with the detent 77. The second terminal end 71 includes a guide 78 which stands proud at the top of the second terminal end 71 and is adapted to be received within a slot 57 at the free end of the bridge 50. Accordingly, the bridge 50 may be positively engaged with the first and second terminal ends 61, 71 whereby to lock the handle portion 20 against compressive forces which would otherwise be operative to open the clamp portion 10 and to release any garments secured therein.

Accordingly, the sock peg 1 is effective to secure a pair of garments in the clamp portion 10 for the duration of the processing of the garments, such as in a clothes washing cycle and drying process. To assist in drying the garments, advantageously the sock peg 1 includes the hook portion 40 depending from the extension 41. The hook portion 40 is configured for marginal deformability whereby to flex away from the first elongate member 60 to enable a wire, such as clothes wire, to be inserted into the space defined by the hook portion 40 and the first elongate member 60. The hook portion 40 at its free end 45 is slightly outwardly bent to more easily admit wire into the space 46. The space 46 is wedge shaped whereby it is widest at the extension 41 end.

In Figures 3 through to 13 the sock peg is shown in greater detail. It can be seen that the sock peg 1 is capable of being injection moulded in one piece using identical polymeric material for all components. This method of manufacture is advantageous in terms of cost of simplicity of supply of materials and manufacturing efficiency. The preferred embodiment 20 shown in Figures 3 and 4 is integrally formed by injection moulding.

When used in this specification and claims, the terms "comprises" and "comprising" and variations thereof mean that the specified features, steps or integers are included. The terms are not to be interpreted to exclude the presence of other features, steps or components.

It will be appreciated by those skilled in the art that many modifications and variations may be made to the embodiment described herein without departing from the spirit and scope of the invention.

Figure 1

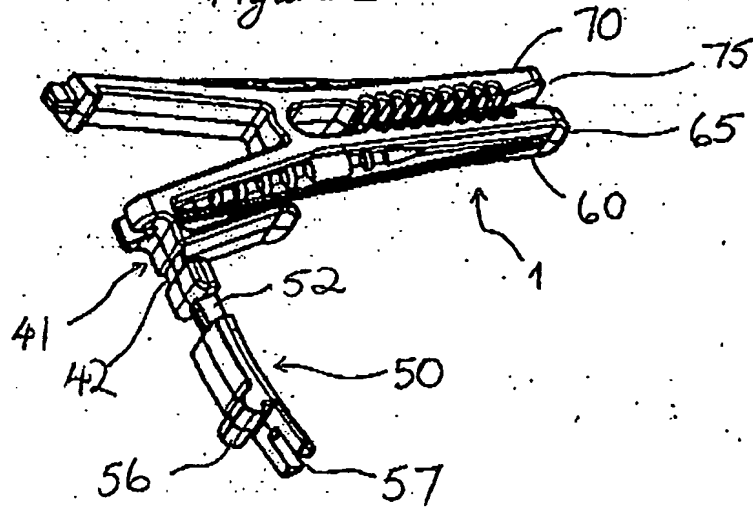
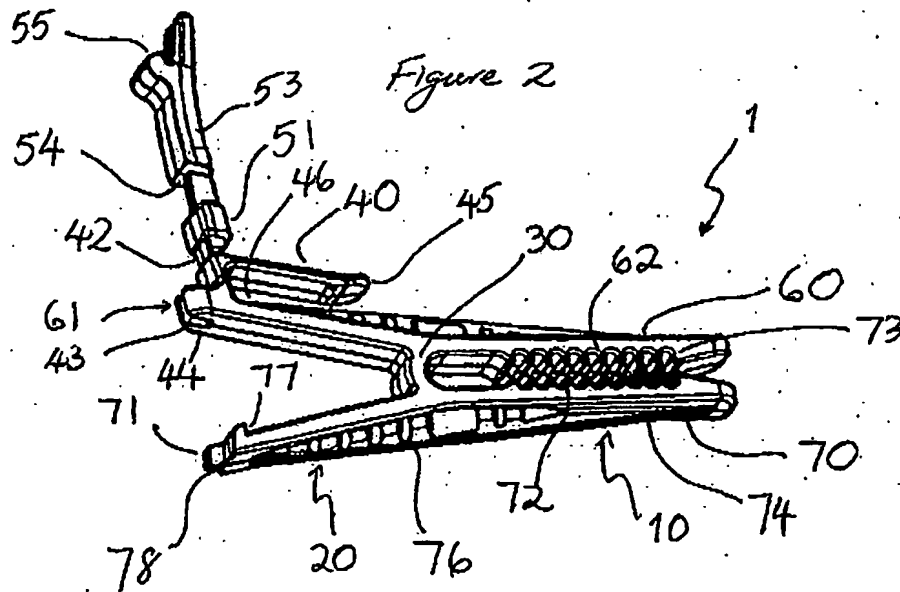


Figure 2



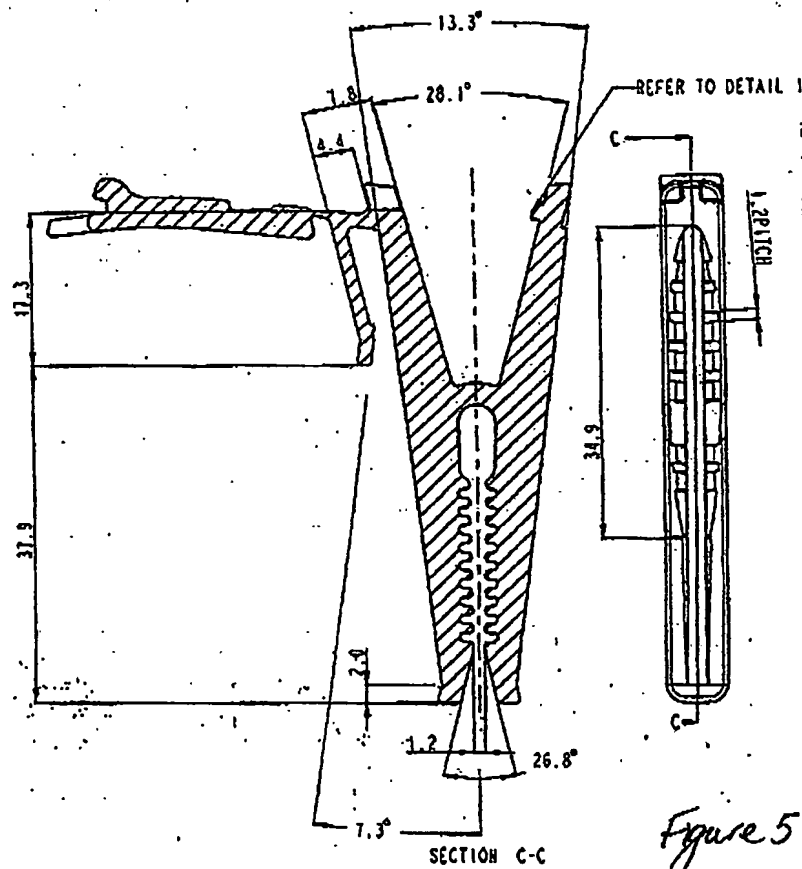
*Figure 5**Figure 3*



Figure 6

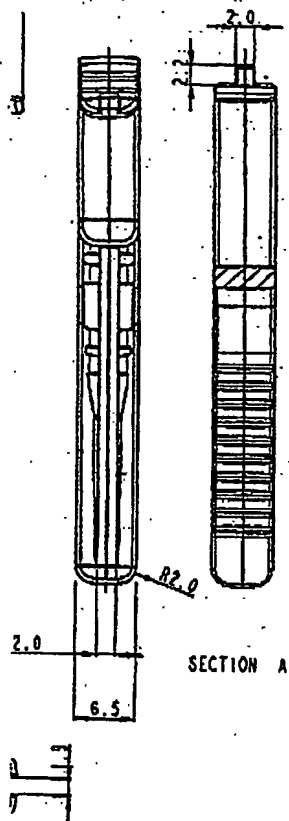


Figure 7

Figure 8

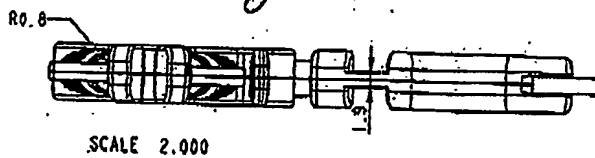
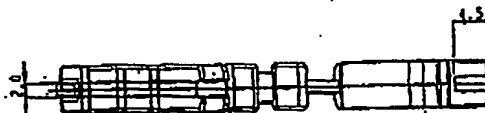


Figure 9



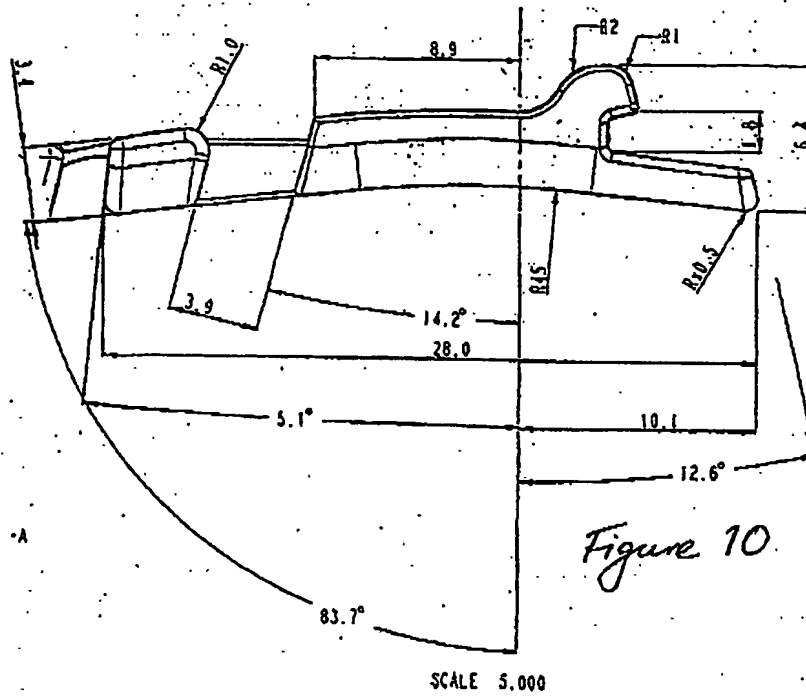


Figure 11

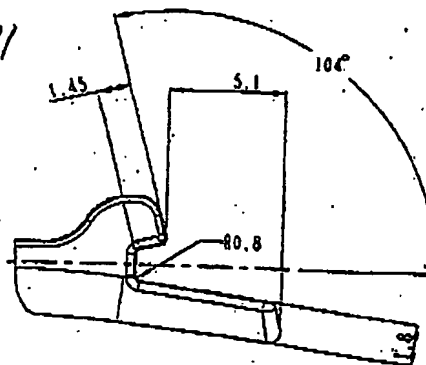


Figure 12

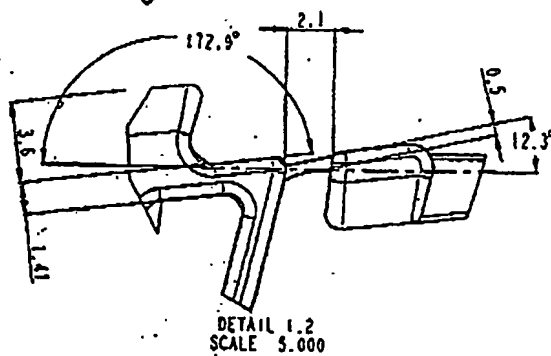
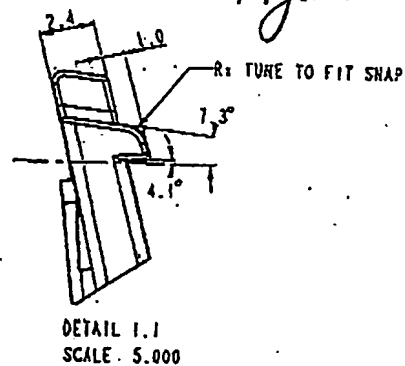


Figure 13





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